# Strategy to Optimize Resource Management of Stormwater (STORMS) - Update

## Board Meeting Agenda Item # 6

July 24, 2018

STORMS Unit
Division of Water Quality

# Background - Stormwater Strategy

## ***Vision***

**Stormwater is sustainably managed and utilized in California** to support water quality and water availability for human uses as well as the environment.

## ***Mission***

To lead the evolution of stormwater management in California by **advancing the perspective that stormwater is a valuable resource**, supporting policies for collaborative watershed-level stormwater management and pollution prevention, removing obstacles to funding, developing resources, and integrating regulatory and non-regulatory interests.

# Background - Phase I Projects

| Phase I Projects | Estimated Target Completion |
|---|---|
| 1. Promote Stormwater Capture and Use | 2019 |
| 2. Eliminate Barriers to Stormwater Capture and Use | 2019 |
| 3. Develop Guidance for Alternative Compliance Approaches | 2019 |
| 4. Develop Watershed-Based Compliance and Management Guidelines and Tools | 2019 |
| 5. Implement Senate Bill 985 | 2018 |
| 6. Eliminate Barriers to Funding | 2018 |
| 7. Stormwater Program "Open Data" | 2019 |
| 8. Urban Pesticides Amendments | 2018 |
| 9. Opportunities for Source Control and Pollution Prevention | 2019 |

# Presentation Outline

1. **Staff Report** - Eliminate Barriers to Funding Stormwater Programs and Identify Funding for Stormwater Capture and Use Projects
2. **Contract Product Report** – Promote Stormwater Capture and Use & Eliminate Barriers to Stormwater Capture and Use

# STORMS – Funding Project

**Objective:** To support and promote funding of stormwater projects and programs by identifying funding opportunities and addressing barriers.

**Results:** Report has eight recommendations based on potential actions by the State Water Board staff

# What We Did

- Tasks
  - Coordinated with STORMS Implementation Sub-Committee
  - Evaluated common barriers to funding programs/projects
  - Reviewed existing stormwater funding opportunities
  - Identified alternative, multiple benefit approaches
  - Highlighted potential State Water Board actions

- Outreach
  - CASQA 2016 Conference – Project Status Update
  - Stormwater Finance Forums with U.S. EPA, April 2017
  - STORMS Seminar Series: Municipal Finance of Stormwater Project
  - CASQA 2017 Conference – Training Workshop

# Organizations and People

California Coastkeeper Alliance – Sean Bothwell
California Council for Environmental and Economic Balance – Dawn Koepke, Jerry Secundy
California Stormwater Quality Association – Geoff Brosseau
California Association of Sanitation Agencies – Lisa Haney
Association of California Water Agencies – David Borchard
California State University, Sacramento – Brian Currier, Maureen Kerner
US Environmental Protection Agency – Dave Smith, Bola Odusoga
Los Angeles Regional Water Board – Deborah Smith, Renee Purdy
San Diego Regional Water Board – Laurie Walsh
Olaunu – Daniel Apt
Richard Watson and Associates – Richard Watson
SCI Consulting, Inc. – Jerry Bradshaw, John Bliss
Contra Costa County – John Steere, Mitch Avalon
EOA, Inc. – Jill Bicknell
Woodard & Curran – Hawkeye Sheene
And, Others…….

# Stormwater Funding

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## Staff Recommendations

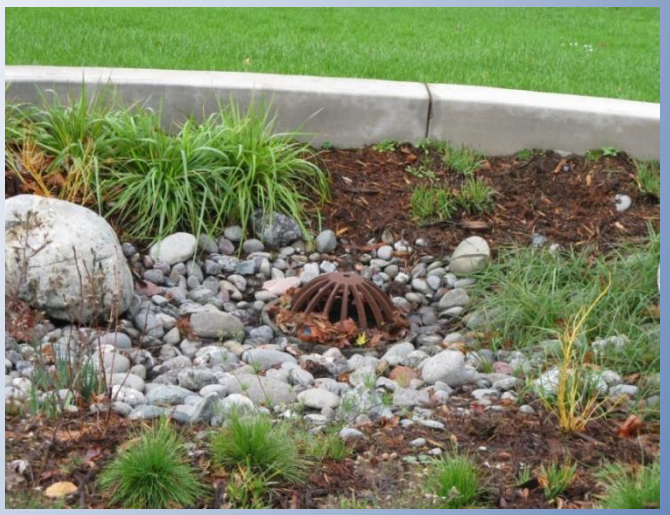
1. State Legislation (SB-231) and Stormwater Fee Development
2. Drinking Water State Revolving Fund (DWSRF) Pilot Project
3. CASQA Stormwater Funding Website
4. Stormwater Public Messaging
5. Clean Water State Revolving Fund (CWSRF) Accessibility
6. Greenhouse Gas Reduction Quantification Methodology for Stormwater
7. Building Local Resource Capacity
8. Evolve Municipal Separate Storm Sewer System Permits

# Stormwater Funding

## *Current Efforts*

1. **Track State Legislation (SB-231) and Stormwater Fee Development**
2. **Facilitate DWSRF Pilot Project**



# 1. Track Legislation & Fee Development

- Follow impact of Senate Bill 231 on Proposition 218
  - Work group applying new legislation
  - Legal challenges to legislation
- Disseminate impacts of legislation

# 2. Facilitate DWSRF Pilot Project

- Leverage Assembly Bill 2403 – water "from any source"
- Stormwater/drinking water supply pilot project
- Navigate DWSRF program
  - "Dams and Reservoirs" are considered ineligible
    - Inflatable dams may be essential feature for stormwater capture
  - Water rights

# Stormwater Funding

| *Near-Term Actions* |
| --- |
| **3. Support the CASQA Stormwater Funding Resources Website** |
| **4. Assist with Resources for Stormwater Public Messaging** |
| **5. Advocate for CWSRF Accessibility** |
| **6. Facilitate Development of Greenhouse Gas (GHG) Emission Reductions Quantification Methodology for Stormwater** |

# 3. Support Stormwater Funding Website

- Support the development of a Stormwater Funding website
- CASQA awarding contract to develop content soon

# 4. Assist with Stormwater Public Messaging

- Coordinate with U.S. EPA to develop outreach material on stormwater program needs and benefits
  - Messaging to public and elected officials
  - Pilot effort with an interested community to evaluate guidance

# 5. Advocate for CWSRF Accessibility

- Leverage the financial strength of CWSRF
- Consider creative solutions utilized by other states
- Evaluate new financing products or options
  - Loan guarantee (linked deposit);
  - Securitize SRF debt obligations;
  - Technical assistance to borrowers needing administrative assistance; or
  - Additional subsidization in addition to principal forgiveness.

# 6. GHG – Quantification Methodology

- Coordinate with Air Resources Board to complete Greenhouse Gas (GHG) emissions reduction quantification methodology
- Address barriers to greenhouse gas offsets
- Advocate for GHG Reduction Funds

# Stormwater Funding

## *Potential Future Actions*

**7. Assist in Building Local Resource Capacity**

**8. Evolve Municipal Separate Storm Sewer System Permits**

# 7. Assist in Building Local Resource Capacity

- Collaborate with the U.S. EPA on Municipal Financial Guidance
  - Develop long-term planning and financial capacity resources
    - Capital improvement cost estimation tools
    - Long-term operation and maintenance
- Consider circuit rider program

# 8. Evolve MS4 permits

- Collaborate with U.S. EPA on creative MS4 compliance opportunities
  - Credit trading
  - Defined compliance pathways in coordination with permittees

# STORMS – Capture and Use Project

**OWP Contract Product Report** – Promote Stormwater Capture and Use & Eliminate Barriers to Stormwater Capture and Use

**Objective:** (1) Develop strategies and set regionally-based goals to increase stormwater capture and use. (2) Identify actions required to eliminate existing legal/regulatory, logistic, and technical barriers and begin to implement them.

# Stormwater Capture and Use

**Why is stormwater capture and use important for California?**

- Stormwater represents a local and underutilized source
  - Dry weather flow and wet weather (storm) events can represent a significant source of water
    - Potentially over 600,000 acre feet per year (NRDC, Pacific Institute, 2014)
- Reduces pollutant loading in waterways
- Restores depleted aquifers
- Restores natural watershed processes
- Provide for more sustainable water supplies

# Water Suppliers and Stormwater

**In water-scarce areas, water suppliers recognize the need to incorporate stormwater capture and use in order to achieve a more sustainable water portfolio**

- Able to build large regional infiltration basins
- Technical, political, legal, and policy expertise
  - Water rights and adjudicated basins
  - Modeling
  - Rate setting
- Long term partnerships (e.g. flood control districts)
- Suppliers are able to pass costs to rate payers

# MS4 and Urban Runoff

## Municipal Stormwater Permittees (MS4s)

- Motivated primarily by permit requirements
  - Compliance issue rather than a commodity
- Limited by
  - Catchment size and amount of runoff
  - Infrastructure
  - Resources
  - Expertise and experience with capture and use

# MS4 Capture and Use

**What are the critical barriers that limit MS4 capture and use of urban runoff today?**

- Do our policies, plans and permits inhibit or foster capture and use of urban runoff?
- What other actions can be done to foster and encourage capture and use by MS4s?

# What We Did

- Tasks
  - Convene Technical Advisory Committee
  - Convene Project Advisory Group (stakeholders and interested parties)
  - Literature review of capture and use
  - Case study analysis to identify common barriers and factors associated with success
  - Identified benefits of capture and use
  - Identify findings and solutions associated with each barrier
  - Identify lead agencies
  - Highlight potential Water Board actions
- Outreach
  - Project Advisory Group (PAG) meeting at CalEPA
  - Call for case studies via survey to interested parties
  - CASQA Conference 2016 Project Overview
  - CASQA Conference 2017 Capture and Use Workshop
  - Other local industry related workshops
  - Combined Technical and Project Advisory Meeting to review findings
  - Present initial findings at CASQA Quarterly Meeting, January 2018

# Organizations and People

Central Coast Regional Board – Dominic Roque
Los Angeles Regional Board – Renee Purdy
San Francisco Bay Regional Board – Tom Mumley
Department of Water Resources – Jose Alarcon, Nirmala Benin, Richard Mills
Office of Planning and Research – Debbie Franco
U.S. EPA – Dave Smith, Peter Kozelka
University of California, Irvine – David Feldman
University of California, Santa Cruz – Andrew Fisher
University of California, Davis – Darla Inglis
University of California, Los Angeles – Mark Gold
California State University, Sacramento – Brian Currier, Erik Porse, Ramzi Mahmood
California Association of Sanitation Agencies – Lisa Haney
California Stormwater Quality Association – Jill Bicknell, Geoff Brosseau
Local Government Coalition – Danielle Dolan
National Municipal Stormwater Alliance – Scott Taylor
Sacramento Urban Land Institute – Mary Slater
Southern California Coastal Water Research Project – Eric Stein, Ken Schiff
Los Angeles County Public Works – Frank Wu, Mark Lombos, Fernando Villaluna
Los Angeles Department of Water and Power – Rafael Villegas
Metropolitan Water District of Southern California – Richard Atwater
Orange County Public Works – Jian Peng
Sacramento County Department of Water Resources – Dana Booth
San Francisco Public Utilities – Ken Kortkamp
City of Orange – Gene Estrada
City of Santa Monica – Neal Shapiro
City of Los Angeles Department of Public Works – Vikki Zale
Brown and Caldwell – Lisa Skutecki, Bill Leever, Katie Leo Porter
Geosyntec – Eric Strecker
Larry Walker Associates – Sandy Mathews
Olaunu – Daniel Apt
Richard Watson and Associates – Richard Watson
Stillwater Sciences – Derek Booth
Torrent Resources – Travis Pacheco and Jim Mayer
Wood (AMEC) – Martin Spongberg, Kent Parrish

# Benefits

| | Potential Capture and Use | | | Potential Ancillary Benefits | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Management Component[1] | Surface Water Supply | Groundwater Recharge | Ecosystems | Watershed Processes/Natural Hydrologic Function | Groundwater Supply | Surface Water Load Reduction | Surface Water Concentration Reduction (surface discharge quality) | Flood Protection[5] | Urban Greening—Social | Urban Greening—Environment[6] | Energy Savings[8] | Carbon Sequestration | Pollination |
| Treatment | | | ✓ | ✓ | | ✓ | ✓ | | | | | | |
| Shallow Infiltration/ Evapotranspiration | | | ✓[2] | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Deep Infiltration | ✓ | ✓ | ✓[3] | ✓ | ✓ | ✓ | | ✓ | | | ✓ | | |
| Direct Use (plumbing/irrigation) | ✓ | | ✓[7] | ✓[4] | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Open Storage | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | | |
| Enclosed | | | ✓ | ✓ | | ✓ | | ✓ | | | ✓ | | |

# Factors Affecting Success

| | | Location | Water Rights | Stream Flow Needs | Level of Planning | Scale of Implementation | Community Support | Political Support | Funding Mechanism | Water Scarcity | Regulatory Driver |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Use** | Surface Water Supply | ✓[1] | | | ✓ | | ✓ | | ✓ | ✓ | |
| | Groundwater Recharge | ✓ | | | ✓[3] | ✓ | | | ✓ | ✓ | ✓ |
| | Ecosystem | ✓ | | | ✓ | | ✓ | | ✓ | | |
| **Scale of BMP** | Centralized | ✓[2] | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| | Decentralized | | | | | | ✓ | | ✓ | | |
| **Developer** | Public | | | | | | ✓ | ✓ | ✓ | ✓ | ✓[4] |
| | Private | | | | | | | | | ✓ | ✓[4,5] |

# Some Findings

- Urban runoff can provide a sizable source of water supply
- Aquifers are the least expensive storage solution
- Capture and use projects that increase onsite retention reduce liability associated with discharge to surface waters
- Technological barriers are mostly perceived/unfounded
- Capture and use can have consequences
- Valuation of capture and use can increase community and political support

# Stormwater Capture and Use

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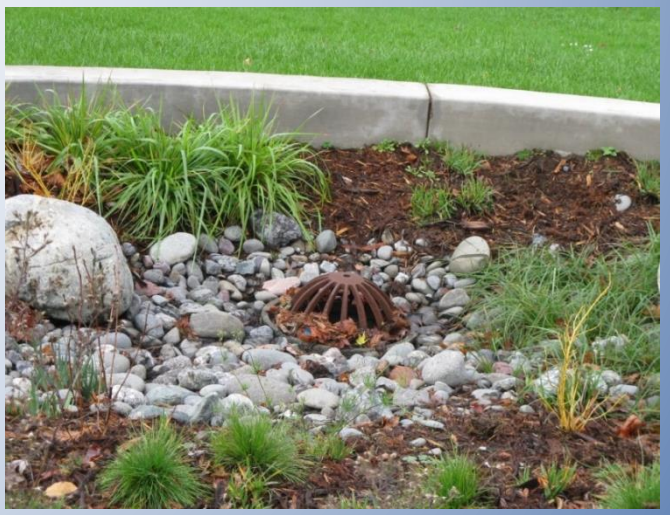
| OWP Recommendations |
| --- |
| 1. Explore options for funding stormwater capture and use |
| 2. Resolve regulatory and policy issues related to the use of drywells for stormwater management |
| 3. Expand/improve regulatory performance measurements to reflect capture and use objectives |
| 4. Establish a framework to assess local ecological impacts, positive and negative, to capture and use diversions |
| 5. Improve consideration of (even quantify) urban stormwater capture and use in Integrated Regional Water Management Plans (IRWMPs) |
| 6. Require that capture and use planning for developers and municipal planners be adopted into city and county ordinance governing entitlement |

# Stormwater Capture and Use

## *Current Actions*

**1. Explore options for funding stormwater capture and use**

**2. Resolve regulatory and policy issues related to the use of drywells for stormwater management**



# Stormwater Capture and Use

| *Potential Future Actions* | *Lead Entity* | *Goal* |
|---|---|---|
| **3. Expand/improve regulatory performance measurements to reflect capture and use objectives**<br>a) Align post-construction requirements<br>b) Identify the most effective and feasible capture and use strategies | Water Boards | Establish when capture and use requires additional study or should be avoided |
| **4. Establish a framework to assess local ecological impacts, positive and negative, to capture and use diversions** | Water Boards & Fish and Wildlife | Reduce potential negative impacts associated with capture and use |

# Stormwater Capture and Use

| *Potential Actions by Others* | *Lead Entity* | *Goal* |
|---|---|---|
| **5. Improve consideration of urban stormwater capture and use in Integrated Regional Water Management Plans (IRWMs)** | Department of Water Resources | Ensure early consideration of stormwater capture in all IRWMPs |
| **6. Require that capture and use planning for developers and municipal planners be adopted into city and county ordinances governing entitlement** | Governor's Office of Planning and Research, local governments | Ensure early consideration of stormwater capture in planning of all new projects |

# Thank You

**waterboards.ca.gov/STORMS**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